

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A lateral bipolar CMOS integrated circuit comprising:
an inverter circuit comprising an n-channel MOS transistor and a p-channel MOS transistor, and having four terminals of:

a gate input terminal ~~V_{in}~~ connected with the gates of the n-channel MOS transistor and the p-channel MOS transistor;

an output terminal ~~V_{out}~~ connected with the drains of the n-channel MOS transistor and the p-channel MOS transistor;

a p-type base terminal connected with a p-type substrate of the n-channel MOS transistor; and

an n-type base terminal connected with an n-type substrate of the p-channel MOS transistor,

wherein the n-channel MOS transistor operates in a hybrid mode which is the hybrid of an operation mode of the MOS transistor and an operation mode of an npn lateral bipolar transistor which is inherent in the n-channel MOS transistor, and

the p-channel MOS transistor operates in a hybrid mode which is the hybrid of an operation mode of the MOS transistor and an operation mode of a pnp lateral bipolar transistor which is inherent in the p-channel MOS transistor[.];

a current source connected with the p-type base terminal of the n-channel MOS transistor; and
a current source connected with the n-type base terminal of the p-channel MOS transistor.

2. (Currently Amended) The lateral bipolar CMOS integrated circuit according to claim 1, wherein the gate input terminal V_{in} , the p-type base terminal and the n-type base terminal are input terminals of the inverter circuit, and the output terminal V_{out} is an output terminal of the inverter circuit, and

the inverter circuit outputs, at the output terminal V_{out} , a high-level or low-level voltage fed to the gate input terminal V_{in} as an inverted level voltage.

3. (Currently Amended) The lateral bipolar CMOS integrated circuit according to claim 2, ~~comprising a current source I_{bp} connected with the p-type base terminal of the n-channel MOS transistor and a current source I_{bn} connected with the n-type base terminal of the p-channel MOS transistor,~~

wherein currents from the current source I_{bp} connected with the p-type base terminal of the n-channel MOS transistor and the current source I_{bn} connected with the n-type base terminal of the p-channel MOS transistor are maintained at 0 when the input voltage to the gate input terminal V_{in} is approximately constant at a high level or low level,

when the input voltage to the gate input terminal V_{in} switches from the low level to the high level, a forward pulse current flows from the current source I_{bp} connected with the p-type

base terminal of the n-channel MOS transistor to the p-type base terminal in synchronization to switching, and

when the input voltage to the gate input terminal V_{in} switches from the high level to the low level, a forward pulse current flows from the current source I_{bn} connected with the n-type base terminal of the p-channel MOS transistor to the n-type base terminal in synchronization to switching.

4. (Currently Amended) The lateral bipolar CMOS integrated circuit according to claim 3, further comprising a voltage source V_{dd} and a ground source Gnd ,

wherein the current source I_{bp} connected with the p-type base terminal of the n-channel MOS transistor is formed by a pull-up p-channel MOS transistor comprising a source terminal, a drain terminal and a substrate terminal, the drain terminal is connected with the p-type base terminal, and the source terminal and the substrate terminal are connected with the voltage source V_{dd} , and

the current source I_{bn} connected with the n-type base terminal of the p-channel MOS transistor is formed by a pull-down n-channel MOS transistor comprising a source terminal, a drain terminal and a substrate terminal, the drain terminal is connected with the n-type base terminal, and the source terminal and the substrate terminal are connected with the ground source Gnd .

5. (Previously Presented) The lateral bipolar CMOS integrated circuit according to claim 1,

wherein the inverter circuit comprising the n-channel MOS transistor and the p-channel MOS transistor is used as a CMOS standard cell in the operation mode of the MOS transistor, but is used in the hybrid mode when a large load is connected with an output from the CMOS standard cell.

6. (Previously Presented) The lateral bipolar CMOS integrated circuit according to claim 2,

wherein the inverter circuit comprising the n-channel MOS transistor and the p-channel MOS transistor is used as a CMOS standard cell in the operation mode of the MOS transistor, but is used in the hybrid mode when a large load is connected with an output from the CMOS standard cell.

7. (Previously Presented) The lateral bipolar CMOS integrated circuit according to claim 3,

wherein the inverter circuit comprising the n-channel MOS transistor and the p-channel MOS transistor is used as a CMOS standard cell in the operation mode of the MOS transistor, but is used in the hybrid mode when a large load is connected with an output from the CMOS standard cell.

8. (Previously Presented) The lateral bipolar CMOS integrated circuit according to claim 4,

wherein the inverter circuit comprising the n-channel MOS transistor and the p-channel

MOS transistor is used as a CMOS standard cell in the operation mode of the MOS transistor, but is used in the hybrid mode when a large load is connected with an output from the CMOS standard cell.